

Appl. No. 09/803,889
Amdt. dated April 8, 2004
Reply to Office action of January 14, 2004

Amendments to the Claims:

Claims 1-17 and 19-20 have been cancelled. Please amend claims 18 and 21-26. All pending and withdrawn claims are listed below. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-17 (cancelled)

18. (currently amended) A flight data recording system comprising:

an onboard flight data recorder unit and a ground-based data retrieving station, wherein said onboard flight data recorder unit is comprised of a single physical enclosure containing a central processing unit, a plurality of sensors monitoring the for monitoring an aircraft's condition, a global position system (GPS) receiver, a non-volatile memory for recording flight data and a wireless communications transceiver for retrieving said data all contained in a single physical enclosure, said flight data recorder mounted on an aircraft floor or wall;

a GPS communications antenna mounted to a windshield;

a temperature sensor mounted to an aircraft's vent; and

wires for joining the system to the aircraft power supply and ignition switch without connecting the system to the aircraft's flight instruments, namely an airspeed indicator, artificial horizon, altimeter and directional gyro-instruments.

19-20 (cancelled)

21. (currently amended) The system of claim 18 wherein said wireless communications transceiver communicates with said ground-based data retrieving station comprised of a general-purpose desktop computer interfaced to a wireless transceiver wherein said transceivers transmit at each transceiver transmits at generally low-power and have generally short communications range and said data retrieval is performed on the ground

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at the end of the flight.

22. (currently amended) The system of claim 21 wherein said data retrieving station of claim 21 wherein said station can also be is implemented as a battery-operated portable hand-held computing device with a built-in wireless transceiver ~~that can be held by a single human hand, allowing the person operating the retrieving station to approach the aircraft when retrieving data.~~

23. (currently amended) The system of claim 18 wherein said wireless means of communications ~~can also operate underwater,~~ operate underwater allowing data stored in the flight data recorder to be retrieved ~~even~~ if the aircraft is submerged in water.

24. (currently amended) A method of recording aircraft position data comprising:
providing an onboard flight data recorder unit and a ground-based data retrieving station, wherein said onboard flight data recorder unit is comprised of a single physical enclosure containing a central processing unit, a plurality of sensors monitoring the for monitoring an aircraft's condition, a global position system (GPS) receiver, a non-volatile memory for recording flight data and a wireless communications transceiver for retrieving said data all contained in a single physical enclosure, said flight data recorder mounted on an aircraft floor or wall;

providing a GPS communications antenna mounted to a windshield;

providing a temperature sensor mounted to an aircraft's vent;

providing wires for joining the recorder to the aircraft power supply and ignition switch without connecting the recorder to the aircraft's flight instruments, namely an airspeed indicator, artificial horizon, altimeter and directional gyro-instruments; and

computing the difference between the between current and previous coordinates generated by the GPS receiver of claim 18, and then storing this difference the difference instead of the coordinate, thereby saving on coordinates thereby saving memory space.

Appl. No. 09/803,889
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25. (currently amended) The method of claim 24 wherein ~~said-recorded~~ recorded position data is converted to absolute coordinates by the ground-based data retrieving station by adding ~~the first~~ a first recorded difference to the initial coordinates resulting in ~~the first~~ a first absolute coordinate and then adding to it ~~the next~~ a next recorded difference to produce ~~the second~~ a second absolute coordinate and so on, wherein said initial coordinates are recorded at the start of every flight.

26. (currently amended) A method of periodically recording aircraft position and flight data at a certain time interval which is set before the start of every flight by transmitting the ~~desired~~ a desired interval to the flight data recorder using the wireless communications device of ~~claim 24~~ claim 24.

27. (currently amended) The method of claim 26 wherein ~~the said-recording~~ a recording time interval can be automatically varied in-flight depending on aircraft speed by:

computing ~~the speed~~ the speed of the aircraft by estimating ~~the distance~~ a distance traveled between two points and dividing by ~~the time~~ a time traveled;

comparing said speed with pre-set values to determine if the aircraft is taxiing, cruising or taking-off or landing; and

setting the time interval to ~~the highest~~ a highest value if the speed is equivalent to taxiing, intermediate value if cruising and ~~the lowest~~ a lowest value if taking off or landing.